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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,585	08/27/2001	Mikihiro Kajita	Q65648	2717

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EXAMINER	
PAYNE, DAVID C	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/938,585	KAJITA, MIKIHIRO	
	Examiner	Art Unit	
	David C. Payne	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-9 and 12-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-9 and 12-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/8/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 15 September 2004 have been fully considered but they are not persuasive.

2. The laser diode driver in Levinson is composed of the transistor 182 and the line 188. Levinson measures power and therefore current at two points: 1) across the resistor 179 attached to VCC and at the emitter of the transistor 182. The power line to the driver (182) is VCC. Furthermore, it is well understood to an artisan of ordinary skill that by measuring the voltage drop across a resistor attached to VCC, one is by default measuring the current in that power line. See, Levinson, col. 1 lines 1-5, repeated here: 'The controller 160 measures the current flowing through the laser diode by monitoring the voltage drop across a high precision resistor 179, in particular by monitoring the VCC voltage from the power supply 174 and the voltage at node B on the emitter of transistor 182. As shown in FIG. 3, both of these voltages are read by the micro-controller 162 via the A/D converter 170.'

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country

or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 5, 7-9, 12, 13, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Levinson US 5,019,769 (Levinson).

Re claims 1 and 13, Levinson disclosed

A method for detecting an abnormality of an optical module comprising the steps of: (a) detecting a value of a current flowing through a specified spot of the optical module (e.g., col./line: 5/1-10); (b) holding the detected value of the current in a memory (e.g., col./line: 9/16-21); (c) detecting a value of a current flowing through the specified spot at every predetermined time (e.g., col./line: 9/22-30); (d) obtaining a differential value between the value of the current held in the memory and the value of the current newly detected (e.g., col./line: 9/5-15); and (e) generating alarm signal indicating a necessity of preventive maintenance when the obtained differential value exceeds a predetermined threshold value (e.g., col./line: 9/10-15), wherein the value of the current flowing through the specified spot is a value of a current in a power line for supplying power to the optical module including a laser diode driver (current flowing through resistor 179 of Figure 3, see col./line: 5/1-10), it is inherent that measuring power across said resistor detects current from VCC)

Re claims 3, Levinson disclosed

wherein the value of the current flowing through the specified spot is a monitor current value of an optical output (w.r.t. claim 11, transmission light source) of the optical module (e.g., col./line: 13/60-65). Note, it is inherent that voltage measurement across a known impedance is well known as a current detector as Levinson disclosed in the aforementioned passage.

Re claims 5 and 12, Levinson disclosed

wherein the value of the current hold in the memory is a value of a current flowing through the specified spot at the start time of the use of the optical module (e.g., col./line: 4/50-55).

Re claims 7 and 15, Levinson disclosed

wherein the detected value of the current flowing through the specified spot of the optical module is an average value of currents for the predetermined time (e.g., col./line: 5/14-15).

Re claim 8, Levinson further disclosed

sending an alarm when the drive current exceeded a predefined level by a certain percentage which is also understood as a ratio (see Levinson col./line: 9/7-11).

Re claims 9 and 16, Levinson disclosed

An apparatus for detecting an abnormality of an optical module comprising: a current detector which detects a value of a current flowing through a specified spot of said optical module (e.g., col./line: 5/1-10); a memory which holds the value of the current detected by said current detector e.g., col./line: 9/16-21; an arithmetic circuit ((162) of Figure 3) which obtains a differential value (*w.r.t.* claim 10, ratio of a differential value) between the value of the current held in said memory and a value of a current newly detected by said current detector (e.g., col./line: 9/5-15); and an alarm circuit (e.g., col./line: 9/13, (162) of Figure 3) which generates alarm signal indicating a necessity of

preventive maintenance when the differential value obtained by said arithmetic circuit exceeds a predetermined threshold value (e.g., col./line: 9/10-15), wherein the value of the current flowing through the specified spot is a value of a current in a power line for supplying power to the optical module including a laser diode driver (current flowing through resistor 179 of Figure 3, see col./line: 5/1-10).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levinson US 5,019,769 (Levinson).

Re claim 6, Levinson does not disclose

wherein the value of the current held in the memory is overwritten to the value of the current that is newly detected in the specified spot when a differential value is obtained. However it would have been obvious to one of ordinary skill in the art at the time of invention to overwrite old data in memory to conserve on the use of memory where intermediate data points are not needed. Furthermore, this technique is extremely well known in the art.

Re claim 14, Levinson does not explicitly disclose

wherein said memory includes a first memory and a second memory, said first memory receives and holds a value of a current from said current detector, and sends out the value of the current held until then to said second memory, said second memory holds the value of the current sent from said first memory, and said arithmetic circuit obtains a differential value between the values of the currents held in said first memory and said second memory. However, it would have been obvious to one of ordinary skill in the art that the arithmetic calculations described in Levinson necessarily require storing two values in separate memory register maps in order to perform a calculation as this is the most basic function of an ALU in a microprocessor. Again, the claimed material is extremely well known in the art.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

M. R. Sedighian

M. R. SEDIGHIAN
PRIMARY EXAMINER